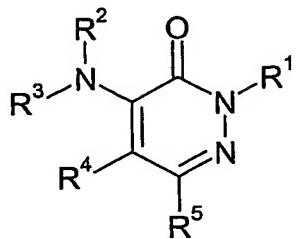


CLAIMS:

1. A pyridazinone derivative of formula (I)



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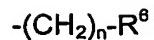
(I)

wherein

10 R¹ represents:

- a hydrogen atom;
- a group selected from acyl, alkoxycarbonyl, carbamoyl, monoalkylcarbamoyl or dialkylcarbamoyl;
- an alkyl, alkenyl or alkynyl group, which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, alkoxy, aryloxy, alkylthio, arylthio, oxo, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl, alkoxycarbonyl, carbamoyl or mono- or di-alkylcarbamoyl groups;
- an aryl or heteroaryl group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, hydroxyalkyl, hydroxycarbonyl, alkoxy, alkyleneedioxy, alkoxycarbonyl, aryloxy, acyl, acyloxy, alkylthio, arylthio, amino, nitro, cyano, mono- or di-alkylamino, acylamino, carbamoyl or mono- or di-alkylcarbamoyl, difluoromethyl, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- a saturated or unsaturated heterocyclic group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, hydroxyalkyl, hydroxycarbonyl, alkoxy, alkyleneedioxy, alkoxycarbonyl, aryloxy, acyl, acyloxy, alkylthio, arylthio, oxo, amino, nitro, cyano, mono- or di-alkylamino, acylamino, carbamoyl or mono- or di-alkylcarbamoyl, difluoromethyl, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- a group of formula

30



wherein n is an integer from 0 to 4 and R⁶ represents:

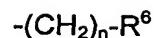
- a cycloalkyl or cycloalkenyl group;
- 5 • an aryl group, which is optionally substituted by one or more substituents selected from halogen atoms and alkyl, hydroxy, alkoxy, alkylenedioxy, alkylthio, amino, mono- or di-alkylamino, nitro, acyl, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, cyano, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- 10 • or a 3- to 7-membered ring comprising from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one or more substituents selected from halogen atoms and alkyl, hydroxy, alkoxy, alkylenedioxy, amino, mono- or di-alkylamino, nitro, cyano or trifluoromethyl groups;

15

R² represents:

- a hydrogen atom;
- a group selected from acyl, alkoxycarbonyl, carbamoyl, monoalkylcarbamoyl or dialkylcarbamoyl;
- 20 • an alkyl, alkenyl or alkynyl group, which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, alkoxy, hydroxycarbonyl, alkoxycarbonyl, aryloxy, alkylthio, arylthio, oxo, amino, mono- or di-alkylamino, acylamino, carbamoyl or mono- or di-alkylcarbamoyl groups;
- an aryl or heteroaryl group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, hydroxyalkyl, hydroxycarbonyl, alkoxy, alkylenedioxy, alkoxycarbonyl, aryloxy, acyl, acyloxy, alkylthio, arylthio, amino, nitro, cyano, mono- or di-alkylamino, acylamino, carbamoyl or mono- or di-alkylcarbamoyl, difluoromethyl, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- 25 • a saturated or unsaturated heterocyclic group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, hydroxyalkyl, hydroxycarbonyl, alkoxy, alkylenedioxy, alkoxycarbonyl, aryloxy, acyl, acyloxy, alkylthio, arylthio, oxo, amino, nitro, cyano, mono- or di-alkylamino, acylamino, carbamoyl or mono- or di-alkylcarbamoyl, difluoromethyl, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- 30 • a saturated or unsaturated heterocyclic group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, hydroxyalkyl, hydroxycarbonyl, alkoxy, alkylenedioxy, alkoxycarbonyl, aryloxy, acyl, acyloxy, alkylthio, arylthio, oxo, amino, nitro, cyano, mono- or di-alkylamino, acylamino, carbamoyl or mono- or di-alkylcarbamoyl, difluoromethyl, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;

- a group of formula



5 wherein n is an integer from 0 to 4 and R⁶ represents:

- a cycloalkyl or cycloalkenyl group;
- an aryl group, which is optionally substituted by one or more substituents selected from halogen atoms and alkyl, hydroxy, alkoxy, alkylenedioxy, alkylthio, amino, mono- or di-alkylamino, nitro, acyl, hydroxycarbonyl, 10 alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, cyano, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- or a 3- to 7-membered ring comprising from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one or more substituents selected from halogen atoms and alkyl, hydroxy, alkoxy, 15 alkylenedioxy, amino, mono- or di-alkylamino, nitro, cyano or trifluoromethyl groups;

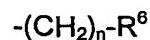
R³ represents a monocyclic or polycyclic aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from:

- 20 • halogen atoms;
- alkyl and alkylene groups, which are optionally substituted by one or more substituents selected from halogen atoms and phenyl, hydroxy, alkoxy, aryloxy, alkylthio, arylthio, oxo, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl, alkoxycarbonyl, carbamoyl or mono- or di-alkylcarbamoyl groups
- 25 • phenyl, hydroxy, hydroxyalkyl, alkoxy, cycloalkoxy, nitro, cyano, aryloxy, alkylthio, arylthio, alkylsulfinyl, alkylsulfonyl, alkylsulfamoyl, acyl, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, ureido, N'-alkylureido, N',N'-dialkylureido, alkylsulfamido, aminosulfonyl, mono- or di-alkylaminosulfonyl, difluoromethoxy or trifluoromethoxy 30 groups;

R⁴ represents:

- 35 • a hydrogen atom;
- a hydroxy, alkoxy, amino, monoalkylamino, dialkylamino or cyano group;

- an alkyl, alkenyl or alkynyl group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, acyloxy, alkoxy, aryloxy, alkylthio, arylthio, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl, alkoxycarbonyl, alkoxyimino, carbamoyl and mono- or di-alkylcarbamoyl groups;
- 5 • or a group of formula



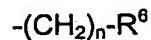
wherein n is an integer from 0 to 4 and R⁶ represents:

- 10 • a cycloalkyl or cycloalkenyl group;
- an aryl group, which is optionally substituted by one or more substituents selected from halogen atoms and alkyl, hydroxy, alkoxy, alkylenedioxy, alkylthio, amino, mono- or di-alkylamino, nitro, acyl, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, cyano, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- 15 • or a 3- to 7-membered ring comprising from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one or more substituents selected from halogen atoms and alkyl, phenyl, alkoxyphenyl, halophenyl, pyridyl, alkoxycarbonyl, hydroxy, alkoxy, alkylenedioxy, amino, mono- or di-alkylamino, nitro, cyano or trifluoromethyl groups;
- 20 • or a 3- to 7-membered ring comprising from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one or more substituents selected from halogen atoms and alkyl, phenyl, alkoxyphenyl, halophenyl, pyridyl, alkoxycarbonyl, hydroxy, alkoxy, alkylenedioxy, amino, mono- or di-alkylamino, nitro, cyano or trifluoromethyl groups;

R⁵ represents a group -COOR⁷ or a monocyclic or polycyclic aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from:

- 25 • halogen atoms;
- alkyl and alkenyl groups, which are optionally substituted by one or more substituents selected from halogen atoms and phenyl, hydroxy, hydroxyalkyl, alkoxy, aryloxy, alkylthio, arylthio, oxo, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl groups;
- 30 and
- phenyl, hydroxy, alkylenedioxy, alkoxy, cycloalkyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylsulfamoyl, amino, mono- or di-alkylamino, acylamino, nitro, acyl, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, ureido, N'-alkylureido, N',N'-dialkylureido, alkylsulfamido, aminosulfonyl, mono- or di-alkylaminosulfonyl, cyano, difluoromethoxy or trifluoromethoxy groups;

- wherein R⁷ represents an alkyl which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, alkoxy, aryloxy, alkylthio, arylthio, oxo, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl groups or a group of formula



wherein n is an integer from 0 to 4 and R⁶ represents:

- a cycloalkyl or cycloalkenyl group;
- an aryl group, which is optionally substituted by one or more substituents selected from halogen atoms and alkyl, hydroxy, alkoxy, alkyleneedioxy, alkylthio, amino, mono- or di-alkylamino, nitro, acyl, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, cyano, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- or a 3- to 7-membered ring comprising from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one or more substituents selected from halogen atoms and alkyl, phenyl, alkoxyphenyl, halophenyl, pyridyl, alkoxycarbonyl, hydroxy, alkoxy, alkyleneedioxy, amino, mono- or di-alkylamino, nitro, cyano or trifluoromethyl groups;

and their salts or N-oxides thereof

with the proviso that when R¹ is methyl, R² is H, and both R³ and R⁵ are phenyl then R⁴ is not a 1-hydroxyethyl group.

2. A compound according to claim 1 wherein R¹ is selected from the group consisting of hydrogen atoms and alkyl groups, which are optionally substituted by one or more substituents selected from halogen atoms and hydroxy, alkoxy, alkylthio, hydroxycarbonyl and alkoxycarbonyl groups
3. A compound according to claim 2 wherein R¹ is selected from the group consisting of unsubstituted C₁₋₄ alkyl groups.

4. A compound according to any preceding claim wherein R² is selected from the group consisting of:
 - hydrogen atoms,
5. • an acyl group
- an alkyl group, which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, alkoxy and alkylthio groups
- an aryl or heteroaryl group which are optionally substituted by one or more substituents selected from halogen atoms and hydroxy, hydroxyalkyl, hydroxycarbonyl, alkoxy, alkyleneoxy, alkoxy carbonyl, aryloxy, acyl, acyloxy, alkylthio, arylthio, amino, nitro, cyano, mono- or di-alkylamino, acylamino, carbamoyl or mono- or di-alkylcarbamoyl, difluoromethyl, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- 15 5. A compound according to claim 4 wherein R² is a hydrogen atom.
6. A compound according to any preceding claim wherein R³ represents a monocyclic or polycyclic, aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from:
 - halogen atoms;
 - alkyl and alkylene groups, which are optionally substituted by one or more substituents selected from halogen atoms and phenyl, hydroxy, alkoxy, aryloxy, alkylthio, arylthio, oxo, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl, alkoxy carbonyl, carbamoyl or mono- or di-alkylcarbamoyl groups
 - 20 • phenyl, hydroxy, hydroxyalkyl, alkoxy carbonyl, alkoxy, cycloalkoxy, nitro, cyano, aryloxy, alkylthio, arylthio, alkylsulfinyl, alkylsulfonyl, alkylsulfamoyl, acyl, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, ureido, N'-alkylureido, N',N'-dialkylureido, alkylsulfamido, aminosulfonyl, mono- or di-alkylaminosulfonyl, difluoromethoxy or trifluoromethoxy groups;
 - 25 30
7. A compound according to claim 6 wherein R³ represents a monocyclic or polycyclic, aryl or heteroaryl group, which is optionally substituted by one substituent selected from halogen atoms, alkyl groups and hydroxycarbonyl groups.

8. A compound according to claim 7 wherein R³ represents a phenyl groups or a monocyclic or polycyclic N-containing heteroaryl group which groups may be substituted by one substituent selected from halogen atoms, alkyl groups and hydroxycarbonyl groups

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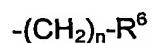
9. A compound according to any preceding claim wherein R⁴ represents:

- a hydrogen atom;
- a cyano group;

10. • an alkyl, alkenyl or alkynyl group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, acyloxy, alkoxy, aryloxy, alkylthio, arylthio, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl, alkoxycarbonyl, carbamoyl and mono- or di-alkylcarbamoyl groups;

• or a group of formula

15



wherein n is an integer from 0 to 4 and R⁶ represents a 3- to 7-membered ring comprising from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one or more substituents selected from halogen atoms and alkyl, phenyl, alkoxyphenyl, halophenyl, pyridyl, alkoxycarbonyl, hydroxy, alkoxy, alkyleneedioxy, amino, mono- or di-alkylamino, nitro, cyano or trifluoromethyl groups;

25 10. A compound according to claim 9 wherein R⁴ represents a hydrogen atom or a cyano group.

11. A compound according to any preceding claim wherein R⁵ represents a group – COOR⁷ or a monocyclic or polycyclic aryl or heteroaryl group, which is optionally

30 substituted by one or more substituents selected from:

- halogen atoms;
- alkyl groups, which are optionally substituted by one or more substituents selected from halogen atoms and hydroxy, hydroxalkyl, alkoxy, alkylthio, mono- or di-alkylamino, acylamino, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl groups; and

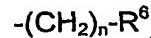
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- hydroxy, alkylenedioxy, alkoxy, cycloalkyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylsulfamoyl, amino, mono- or di-alkylamino, acylamino, nitro, acyl, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, ureido, N'-alkylureido, N',N'-dialkylureido, alkylsulfamido, aminosuphonyl, mono- or di-

5 alkylaminosulfonyl, cyano, difluoromethoxy or trifluoromethoxy groups;

wherein R⁷ represents an alkyl group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, alkoxy, aryloxy, alkylthio, arylthio, oxo, amino, mono- or di-alkylamino, acylamino, hydroxycarbonyl,

10 alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl groups or a group of formula



wherein n is an integer from 0 to 4 and R⁶ represents:

- a cycloalkyl or cycloalkenyl group;
- an aryl group, which is optionally substituted by one or more substituents selected from halogen atoms and alkyl, hydroxy, alkoxy, alkylenedioxy, alkylthio, amino, mono- or di-alkylamino, nitro, acyl, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, cyano, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- or a 3- to 7-membered ring comprising from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one or more substituents selected from halogen atoms and alkyl, phenyl, hydroxy, alkoxy, alkylenedioxy, amino, mono- or di-alkylamino, nitro, cyano or trifluoromethyl groups;

12. A compound according to claim 11 wherein R⁵ represents a monocyclic aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from halogen atoms and alkyl groups.

30

13. A compound according to any preceding claim wherein R¹ is selected from the group consisting of hydrogen atoms and alkyl groups, which are optionally substituted by one or more substituents selected from halogen atoms and hydroxy, alkoxy, alkylthio, arylthio, hydroxycarbonyl and alkoxycarbonyl groups and R² is selected from the group consisting of:

35

- hydrogen atoms,
 - an acyl group
 - an alkyl group, which is optionally substituted by one or more substituents selected from halogen atoms and hydroxy, alkoxy and alkylthio groups
- 5 • an aryl or heteroaryl group which are optionally substituted by one or more halogen atoms.

14. A compound according to claim 13 wherein R¹ is selected from the group consisting of unsubstituted C₁₋₄ alkyl groups and R² is a hydrogen atom.

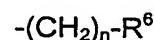
10 15. A compound according to anyone of claims 13 to 14 wherein R³ represents a monocyclic or polycyclic, aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from:

- halogen atoms;
- alkyl groups, which are optionally substituted by one or more substituents selected from halogen atoms and hydroxy groups
- cyano, hydroxycarbonyl groups;

15 16. A compound according to claim 15 wherein R³ represents a phenyl group or a monocyclic or polycyclic N-containing heteroaryl group which groups may be substituted by one substituent selected from halogen atoms, alkyl groups and hydroxycarbonyl groups.

20 17. A compound according to anyone of claims 13 to 16 wherein R⁴ represents:

- 25
 - a hydrogen atom;
 - a cyano group;
 - an alkyl, alkenyl or alkynyl group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxyl and alkoxy groups;
- 30 • or a group of formula



wherein n is 0 and R⁶ represents a 3- to 7-membered ring comprising from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one or more substituents selected from halogen atoms and alkyl and phenyl groups

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18. A compound according to claim 17 wherein R⁴ represents a hydrogen atom or a cyano group.

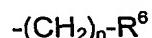
19. A compound according to anyone of claims 13 to 18 wherein R⁵ represents a group –
10 COOR⁷ or a monocyclic or polycyclic aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from:

- halogen atoms;
- alkyl groups, which are optionally substituted by one or more substituents selected from halogen atoms and hydroxyl and alkoxy groups;
- alkoxy, alkoxycarbonyl and hydroxycarbonyl groups;

15

wherein R⁷ represents an alkyl group which is optionally substituted by one or more substituents selected from halogen atoms and hydroxyl and alkoxy groups or a group of formula

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wherein n is an integer from 0 to 4 and R⁶ represents:

- a cycloalkyl or cycloalkenyl group;
- an aryl group, which is optionally substituted by one or more substituents selected from halogen atoms and alkyl, hydroxy, alkoxy, alkylenedioxy, alkylthio, amino, mono- or di-alkylamino, nitro, acyl, hydroxycarbonyl, alkoxycarbonyl, carbamoyl, mono- or di-alkylcarbamoyl, cyano, trifluoromethyl, difluoromethoxy or trifluoromethoxy groups;
- or a 3- to 7-membered ring comprising from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one or more substituents selected from halogen atoms and alkyl, phenyl, hydroxy, alkoxy, alkylenedioxy, amino, mono- or di-alkylamino, nitro, cyano or trifluoromethyl groups;

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20. A compound according to claim 19 wherein R⁵ represents a monocyclic or polycyclic aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from:

- 5 • halogen atoms;
 • alkyl groups, which are optionally substituted by one or more substituents selected from halogen atoms and hydroxyl and alkoxy groups; and
 • alkoxy groups

10 21. A compound according to claim 20 wherein R⁵ represents a monocyclic aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from halogen atoms and alkyl groups.

22. A compound according to any preceding claim wherein R¹ represents an alkyl group,
15 R² represents a hydrogen atom or a group selected from acyl, alkyl, aryl or heteroaryl groups which are optionally substituted by one or more halogen atoms; R³ represents a monocyclic or polycyclic aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from halogen atoms, cyano, hydroxycarbonyl and alkyl groups, which are optionally substituted by one or more hydroxy groups, R⁴
20 represents a hydrogen atom, a cyano group, an alkyl or alkenyl group which are optionally substituted by one substituent selected from hydroxyl and alkoxy groups or a group of formula (-R⁶) wherein R⁶ represents a 4- to 6-membered ring comprising from 1 to 3 heteroatoms selected from nitrogen, oxygen and sulphur, which ring is optionally substituted by one substituent selected from alkyl and phenyl groups and R⁵
25 represents a monocyclic aryl or heteroaryl group, which is optionally substituted by one substituent selected from halogen atoms, alkyl and alkoxy groups;

23. A compound according to any preceding claim wherein R¹ is selected from the group consisting of unsubstituted C₁₋₄ alkyl groups; R² is a hydrogen atom; R³ represents a phenyl group or a monocyclic or polycyclic N-containing heteroaryl group which groups may be substituted by one substituent selected from halogen atoms, alkyl groups and hydroxycarbonyl groups; R⁴ represents a hydrogen atom or a cyano group and R⁵ represents a monocyclic aryl or heteroaryl group, which is optionally substituted by one or more substituents selected from halogen atoms and alkyl groups.
30
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24: A compound according to claim 1 which is one of:

- 4-[(3-chlorophenyl)amino]-2-ethyl-5-(1-hydroxyethyl)-6-phenylpyridazin-3(2H)-one
5 4-[(3-chlorophenyl)amino]-2-ethyl-5-(1-methoxyethyl)-6-phenylpyridazin-3(2H)-one
4-[(3-chlorophenyl)amino]-2-ethyl-6-phenyl-5-vinylpyridazin-3(2H)-one
4-anilino-2,5-diethyl-6-phenylpyridazin-3(2H)-one
5-[(3-chlorophenyl)amino]-1-ethyl-6-oxo-3-phenyl-1,6-dihdropyridazine-4-
carbaldehyde O-methyloxime
10 5-[(3-chlorophenyl)amino]-1-ethyl-6-oxo-3-phenyl-1,6-dihdropyridazine-4-carbonitrile
1-ethyl-5-{[4-(hydroxymethyl)phenyl]amino}-6-oxo-3-phenyl-1,6-dihdropyridazine-4-
carbonitrile
1-ethyl-6-oxo-3-phenyl-5-[(3,4,5-trifluorophenyl)amino]-1,6-dihdropyridazine-4-
carbonitrile
15 5-[(4-cyanophenyl)amino]-1-ethyl-6-oxo-3-phenyl-1,6-dihdropyridazine-4-carbonitrile
1-ethyl-3-(4-fluorophenyl)-5-{[4-(hydroxymethyl)phenyl]amino}-6-oxo-1,6-
dihdropyridazine-4-carbonitrile
5-[(4-cyanophenyl)amino]-1-ethyl-3-(4-fluorophenyl)-6-oxo-1,6-dihdropyridazine-4-
carbonitrile
20 1-ethyl-3-(4-fluorophenyl)-6-oxo-5-[(3,4,5-trifluorophenyl)amino]-1,6-dihdropyridazine-
4-carbonitrile
1-ethyl-3-(4-fluorophenyl)-6-oxo-5-(pyridin-3-ylamino)-1,6-dihdropyridazine-4-
carbonitrile
1-ethyl-3-(3-fluorophenyl)-5-{[4-(hydroxymethyl)phenyl]amino}-6-oxo-1,6-
25 dihydropyridazine-4-carbonitrile
5-[(4-cyanophenyl)amino]-1-ethyl-3-(3-fluorophenyl)-6-oxo-1,6-dihdropyridazine-4-
carbonitrile
1-ethyl-3-(3-fluorophenyl)-6-oxo-5-[(3,4,5-trifluorophenyl)amino]-1,6-dihdropyridazine-
4-carbonitrile
30 4-[(3-chlorophenyl)amino]-2-ethyl-5-(2-methyl-1,3-thiazol-4-yl)-6-phenylpyridazin-
3(2H)-one
4-[(3-chlorophenyl)amino]-2-ethyl-6-phenyl-5-(2-phenyl-1,3-thiazol-4-yl)pyridazin-
3(2H)-one
4-[(3-chlorophenyl)amino]-2-ethyl-5-(1-methyl-1H-pyrazol-5-yl)-6-phenylpyridazin-
35 3(2H)-one

- 4-[{2-ethyl-5-(5-methyl-1,3,4-oxadiazol-2-yl)-3-oxo-6-phenyl-2,3-dihydropyridazin-4-yl}amino]benzonitrile
2-ethyl-5-(5-methyl-1,3,4-oxadiazol-2-yl)-6-phenyl-4-[(3,4,5-trifluorophenyl)amino]pyridazin-3(2H)-one
5 4-[(3-chlorophenyl)amino]-2-ethyl-6-phenylpyridazin-3(2H)-one
2-ethyl-4-[(3-fluorophenyl)amino]-6-phenylpyridazin-3(2H)-one
2-ethyl-4-(1-naphthylamino)-6-phenylpyridazin-3(2H)-one
2-ethyl-6-phenyl-4-(pyridin-3-ylamino)pyridazin-3(2H)-one
2-ethyl-6-phenyl-4-(quinolin-5-ylamino)pyridazin-3(2H)-one
10 4-(diquinolin-5-ylamino)-2-ethyl-6-phenylpyridazin-3(2H)-one
4-[bis(3,4,5-trifluorophenyl)amino]-2-ethyl-6-phenylpyridazin-3(2H)-one
4-[bis(3,4-difluorophenyl)amino]-2-ethyl-6-phenylpyridazin-3(2H)-one
4-[(3,4-difluorophenyl)amino]-2-ethyl-6-phenylpyridazin-3(2H)-one
4-[(3-chloro-4-fluorophenyl)amino]-2-ethyl-6-phenylpyridazin-3(2H)-one
15 4-[(2-ethyl-3-oxo-6-phenyl-2,3-dihydropyridazin-4-yl)amino]benzonitrile
2-ethyl-4-[(1-oxidopyridin-3-yl)amino]-6-phenylpyridazin-3(2H)-one
2-ethyl-6-pyridin-3-yl-4-(pyridin-3-ylamino)pyridazin-3(2H)-one
2-ethyl-4-[(1-oxidoquinolin-5-yl)amino]-6-phenylpyridazin-3(2H)-one
2-ethyl-6-pyridin-4-yl-4-(pyridin-3-ylamino)pyridazin-3(2H)-one
20 2-ethyl-4-(isoquinolin-4-ylamino)-6-phenylpyridazin-3(2H)-one
2-ethyl-6-phenyl-4-[(3,4,5-trifluorophenyl)amino]pyridazin-3(2H)-one
2-ethyl-4-[(4-fluorophenyl)amino]-6-phenylpyridazin-3(2H)-one
2-ethyl-6-pyridin-3-yl-4-(quinolin-5-ylamino)pyridazin-3(2H)-one
2-methyl-6-pyridin-3-yl-4-(quinolin-5-ylamino)pyridazin-3(2H)-one
25 2-ethyl-6-pyridin-4-yl-4-(quinolin-5-ylamino)pyridazin-3(2H)-one
2-ethyl-4-{[4-(hydroxymethyl)phenyl]amino}-6-phenylpyridazin-3(2H)-one
4-[(2-methyl-3-oxo-6-pyridin-3-yl-2,3-dihydropyridazin-4-yl)amino]benzonitrile
4-[(2-ethyl-3-oxo-6-pyridin-3-yl-2,3-dihydropyridazin-4-yl)amino]benzonitrile
methyl 4-[(2-ethyl-3-oxo-6-phenyl-2,3-dihydropyridazin-4-yl)amino]benzoate
30 4-{{2-ethyl-6-(1-oxidopyridin-3-yl)-3-oxo-2,3-dihydropyridazin-4-yl}amino}benzonitrile
2-ethyl-4-(isoquinolin-4-ylamino)-6-pyridin-3-ylpyridazin-3(2H)-one
2-ethyl-4-[(4-methylpyridin-3-yl)amino]-6-pyridin-3-ylpyridazin-3(2H)-one
2-ethyl-4-(isoquinolin-4-ylamino)-6-pyridin-4-ylpyridazin-3(2H)-one
4-[(2-éthyl-3-oxo-6-phenyl-2,3-dihydropyridazin-4-yl)amino]benzoic acid
35 2-ethyl-4-[(4-methylpyridin-3-yl)amino]-6-pyridin-4-ylpyridazin-3(2H)-one

- 4-[(2-ethyl-3-oxo-6-pyridin-4-yl)-2,3-dihdropyridazin-4-yl]amino]benzonitrile
4-[(2-ethyl-3-oxo-6-phenyl-2,3-dihdropyridazin-4-yl)(methyl)amino]benzonitrile
N-(4-cyanophenyl)-N-(2-ethyl-3-oxo-6-phenyl-2,3-dihdropyridazin-4-yl)acetamide
6-(3-chlorophenyl)-2-ethyl-4-(pyridin-3-ylamino)pyridazin-3(2H)-one
5 2-ethyl-4-[methyl(quinolin-5-yl)amino]-6-phenylpyridazin-3(2H)-one
6-(3-chlorophenyl)-2-ethyl-4-(isoquinolin-4-ylamino)pyridazin-3(2H)-one
N-(2-ethyl-3-oxo-6-phenyl-2,3-dihdropyridazin-4-yl)-N-quinolin-5-yl acetamide
2-Ethyl-4-(4-hydroxymethyl-phenylamino)-6-pyridin-3-ylpyridazin-3(2H)-one
2-ethyl-4-(isoquinolin-4-ylamino)-6-(4-methoxyphenyl)pyridazin-3(2H)-one
10 2-ethyl-6-(4-methoxyphenyl)-4-(quinolin-5-ylamino)pyridazin-3(2H)-one
4-anilino-2-ethyl-6-phenylpyridazin-3(2H)-one
2-ethyl-6-(4-methylphenyl)-4-(quinolin-5-ylamino)pyridazin-3(2H)-one
2-ethyl-6-(4-methylphenyl)-4-[(1-oxidoquinolin-5-yl)amino]pyridazin-3(2H)-one
2-Ethyl-6-phenyl-4-(thieno[2,3-c]pyridin-3-ylamino)pyridazin-3(2H)-one
15 1-Ethyl-6-oxo-3-phenyl-5-(pyridin-3-ylamino)-1,6-dihdropyridazine-4-carbonitrile
1-Ethyl-3-(3-methylphenyl)-6-oxo-5-(pyridin-3-ylamino)-1,6-dihdropyridazine-4-carbonitrile
2-Ethyl-5-(1-hydroxyethyl)-6-phenyl-4-(quinolin-5-ylamino)pyridazin-3(2H)-one
2-Ethyl-6-(4-methylphenyl)-4-(pyridin-3-ylamino)pyridazin-3(2H)-one
20 2-Ethyl-4-(isoquinolin-4-ylamino)-6-(4-methylphenyl)pyridazin-3(2H)-one
2-Ethyl-6-(4-methylphenyl)-4-[(4-methylpyridin-3-yl)amino]pyridazin-3(2H)-one
2-Ethyl-6-(3-methylphenyl)-4-(pyridin-3-ylamino)pyridazin-3(2H)-one
2-Ethyl-4-(isoquinolin-4-ylamino)-6-(3-methylphenyl)pyridazin-3(2H)-one
2-Ethyl-6-(3-methylphenyl)-4-[(4-methylpyridin-3-yl)amino]pyridazin-3(2H)-one
25 4-[(2-Ethyl-6-(3-methylphenyl)-3-oxo-2,3-dihdropyridazin-4-yl)amino]benzoic acid
2-Ethyl-6-(5-methylpyridin-3-yl)-4-(pyridin-3-ylamino)pyridazin-3(2H)-one
2-Ethyl-4-(isoquinolin-4-ylamino)-6-(5-methylpyridin-3-yl)pyridazin-3(2H)-one
2-Ethyl-6-(5-methylpyridin-3-yl)-4-[(4-methylpyridin-3-yl)amino]pyridazin-3(2H)-one
2-Ethyl-4-(1,7-naphthyridin-5-ylamino)-6-phenylpyridazin-3(2H)-one
30 [1-Ethyl-6-oxo-3-phenyl-5-(pyridin-3-ylamino)-1,6-dihdropyridazin-4-yl]methyl acetate
[1-Ethyl-6-oxo-3-phenyl-5-(pyridin-3-ylamino)-1,6-dihdropyridazin-4-yl]methyl butyrate
2-Ethyl-5-[2-(4-methoxyphenyl)-1,3-thiazol-4-yl]-6-phenyl-4-(pyridin-3-ylamino)
pyridazin-3(2H)-one
2-Ethyl-4-(isoquinolin-4-ylamino)-6-(6-methylpyridin-3-yl)pyridazin-3(2H)-one
35 2-Ethyl-6-(6-methylpyridin-3-yl)-4-(pyridin-3-ylamino)pyridazin-3(2H)-one

2-Ethyl-5-[2-(4-methoxyphenyl)-1,3-thiazol-4-yl]-4-[(4-methylpyridin-3-yl)amino]-6-phenylpyridazin-3(2H)-one

2-Ethyl-6-phenyl-4-(pyridin-3-ylamino)-5-(2-pyridin-4-yl-1,3-thiazol-4-yl)pyridazin-3(2H)-one

5 Ethyl 4-[1-ethyl-6-oxo-3-phenyl-5-(pyridin-3-ylamino)-1,6-dihydropyridazin-4-yl]-1,3-thiazole-2-carboxylate

2-Ethyl-4-(isoquinolin-4-ylamino)-5-[2-(4-methoxyphenyl)-1,3-thiazol-4-yl]-6-phenylpyridazin-3(2H)-one

10 2-Ethyl-4-[(4-methylpyridin-3-yl)amino]-6-phenyl-5-(2-pyridin-4-yl-1,3-thiazol-4-yl)pyridazin-3(2H)-one

5-[2-(4-Chlorophenyl)-1,3-thiazol-4-yl]-2-ethyl-4-[(4-methylpyridin-3-yl)amino]-6-phenylpyridazin-3(2H)-one

5-[2-(4-Chlorophenyl)-1,3-thiazol-4-yl]-2-ethyl-6-phenyl-4-(pyridin-3-ylamino)pyridazin-3(2H)-one

15 5-[2-(4-Chlorophenyl)-1,3-thiazol-4-yl]-2-ethyl-4-(isoquinolin-4-ylamino)-6-phenylpyridazin-3(2H)-one

2-Ethyl-4-[(4-methylpyridin-3-yl)amino]-6-phenylpyridazin-3(2H)-one

2-Ethyl-4-[(4-methyl-1-oxidopyridin-3-yl)amino]-6-phenylpyridazin-3(2H)-one

Ethyl 4-[(2-ethyl-3-oxo-6-phenyl-2,3-dihydropyridazin-4-yl)amino]benzoate.

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and pharmaceutically acceptable salts thereof.

25. A pharmaceutical composition comprising a compound according to any one of claims 1 to 24 in admixture with a pharmaceutically acceptable diluent or carrier.

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26. Use of a compound according to any one of claims 1 to 24, in the manufacture of a medicament for the treatment or prevention of a pathological condition or disease susceptible to amelioration by inhibition of phosphodiesterase 4.

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27. Use according to claim 26, wherein the medicament is for use in the treatment or prevention of a disorder which is asthma, chronic obstructive pulmonary disease, rheumatoid arthritis, atopic dermatitis, psoriasis or irritable bowel disease.

35

28. A method for treating a subject afflicted with a pathological condition or disease susceptible to amelioration by inhibition of phosphodiesterase 4, which method

comprises administering to the said subject an effective amount of a compound according to any of claims 1 to 24.

29. A method according to claim 28, wherein the pathological condition or disease is
5 asthma, chronic obstructive pulmonary disease, rheumatoid arthritis, atopic dermatitis,
psoriasis or irritable bowel disease.

30. A combination product comprising:

- (i) a compound according to any one of claims 1 to 24; and
- 10 (ii) another compound selected from (a) steroids, (b) immunosuppressive agents, (c) T-cell receptor blockers and (d) antiinflammatory drugs

for simultaneous, separate or sequential use in the treatment of the human or animal body.